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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/577,989 | 05/03/2006 | Masashi Takada | 31869-230505 | 5197 |
| 26694 | 7590 | 09/30/2008 | | |
| VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998 | | | | |
| EXAMINER | | | | |
| JAMAL, ALEXANDER | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 2614 | | | | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,989

Applicant(s)

TAKADA, MASASHI

Examiner

ALEXANDER JAMAL

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Claim 7

The examiner notes prior art patent to Natarajan et al (US 20050036632 A1), which teaches to examine the mean of filter coefficients in echo cancellers in order to detect a DC offset in the signal. Applicant's dependent claim 7, in combination with the preceding claims 1,4,6, is found to be non-obvious over the prior art.

Drawings

1. Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 1-6,8** rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (Fig. 2), and further in view of He et al. (US 20040001450 A1).

As per **claim 1**, applicant's admitted prior Fig. 2 discloses an echo canceller system as per applicant's claim language, however, it does not disclose the use of low frequency filters in the system.

He discloses an echo canceller system with a near end input low frequency filters 45, 49 in Fig. 2 to remove unwanted DC components. It would have been obvious to one of ordinary skill in the art at the time of this application to implement filters to eliminate unwanted frequency components for a particular implementation. It further would have been obvious that filter 49 could have been located after the echo estimate as a matter of design choice, since the pseudo-echo estimate would be created in the same manner.

Further, the examiner contends it would have been obvious that the filter portion could be implemented as part of the already disclosed pseudo echo forming filter (either in hardware, or via the adaptive algorithm that the filter uses) because the disclosed function of the echo canceller adaptive filter is to produce an estimate of the received echo (which would pass through the near-end DC-notch filter taught by He).

As per **claim 2**, the filter functions via adaptive taps and those taps would be affected by any signal processing (including the filtering taught by He) performed before the error signal is fed back into the filter.

As per **claims 3**, they are rejected as per the claim 1 rejection.

As per **claims 4,6,8** the examiner contends it would have been obvious to make any of the components (including and especially the filters) programmable because of the advantages inherent to programmability. Applicants admitted prior art fig. 2 discloses a doubletalk detector, which is a known device which switches (via a switch) the adapting of the echo estimator filter on/off depending on detected signals in both directions (a double talk occurrence). Each signal in each direction will have different frequency content (different bands of frequency). Additionally, the use of the filters taught by He will create different 'bands' of frequency throughout the system. Additionally, the examiner notes the obviousness of programmability, and contends it would have been obvious to make any of the components switchable in order to provide increased programmability. The notch filter may also be a high pass filter (para. 44).

As per **claim 5**, the filters detect the low frequency components and will filter them if they are present.

Allowable Subject Matter

Claim 7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Primary Examiner, Art Unit 2614

Examiner Alexander Jamal

October 1, 2008